

Knowledge	Thinking	Application	Communication
11%	15%	62%	12%

Chapter 7 Assignment

Geometric Relationships

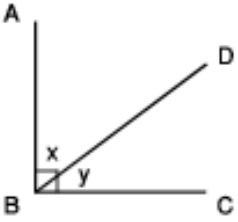
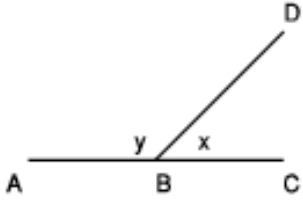
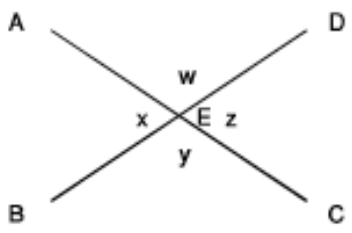
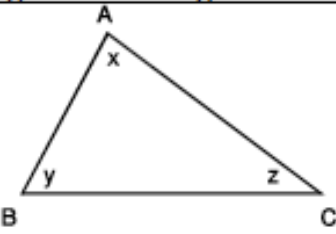
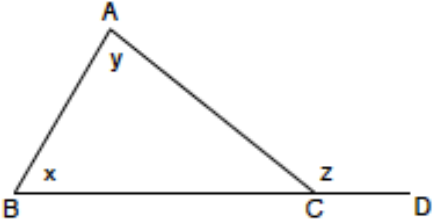
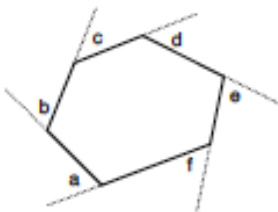
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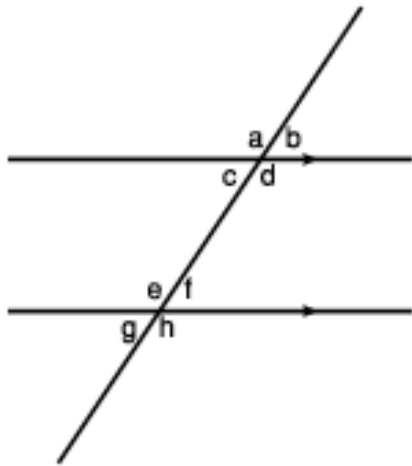
Name: _____

Section 1: Fill in the Blanks

1.

[7K]

<p style="text-align: center;"><u>Complementary Angles (CA)</u></p>  <p style="text-align: center;">If $AB \perp BC$</p> <p style="text-align: center;">then $x + y = \underline{\hspace{2cm}}$</p>	<p style="text-align: center;"><u>Supplementary Angles (SA)</u></p>  <p style="text-align: center;">If $\angle ABC$ is a _____</p> <p style="text-align: center;">then $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$</p>
<p style="text-align: center;"><u>Opposite Angle Theorem (OAT)</u></p>  <p style="text-align: center;">If AC and BD are line segments intersecting at E,</p> <p style="text-align: center;">then $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$ and $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$</p>	<p style="text-align: center;"><u>Sum of Angles in a Triangle Theorem (SATT)</u></p>  <p style="text-align: center;">In any triangle _____</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">that is: $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$</p>
<p style="text-align: center;"><u>Exterior Angle Theorem (EAT)</u></p>  <p style="text-align: center;">If $\angle ACD$ is an _____</p> <p style="text-align: center;">then $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$</p>	<p style="text-align: center;"><u>Sum of Exterior Angles Theorem (SEAT)</u></p>  <p style="text-align: center;">In any polygon, the sum of all exterior angles (one per vertex) is always equal to _____.</p> <p style="text-align: center;">In the example above $a + b + c + d + e + f = \underline{\hspace{2cm}}$</p>
<p style="text-align: center;"><u>Sum of Angles in a Polygon Theorem (SAPT)</u></p> <p style="text-align: center;">In an n-sided polygon (n-gon), the sum of the interior angles is given by _____</p>	



In each diagram below:

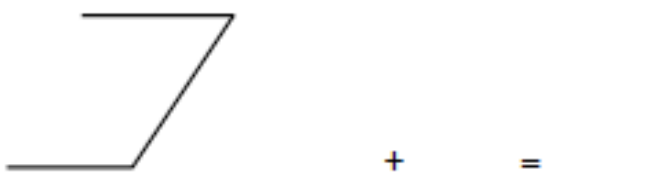
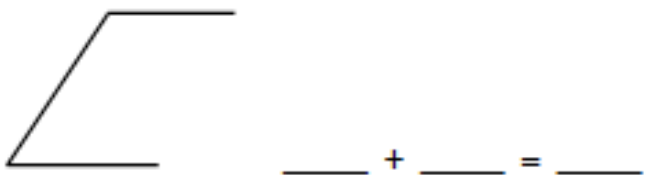
- ① Mark the parallel lines.
- ② Mark the letters of the angles which make the pattern.
- ③ Complete the equation using the same two letters as in the diagram.

PLT - Z (Alternate Angles)

(Corresponding Angles) **PLT - F**



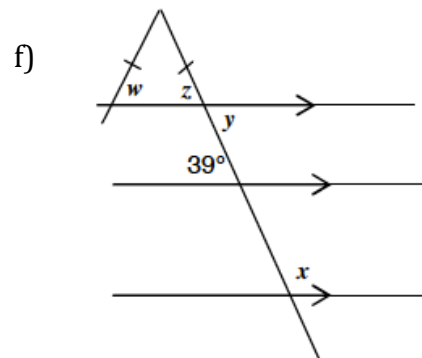
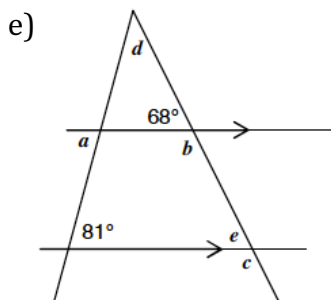
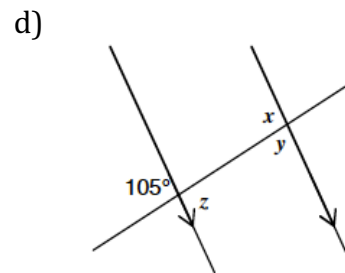
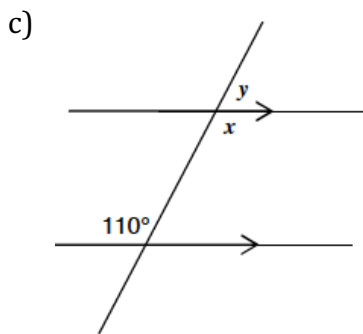
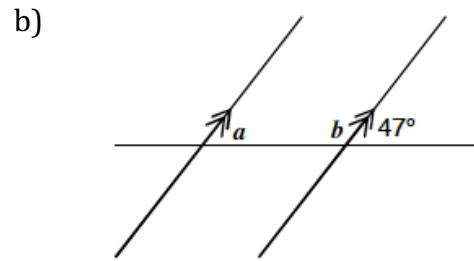
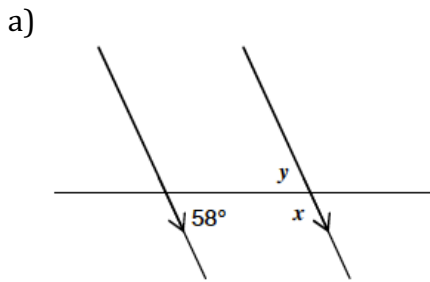
PLT - C (Co-Interior Angles)



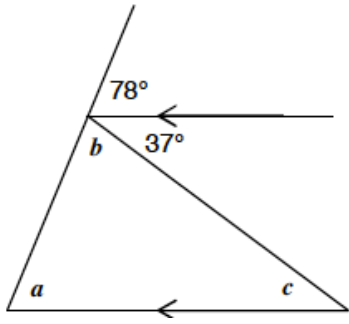
Section 2: Parallel Line Theorem

3. Find the unknown angles indicated and show your work. State any theorems that you use.

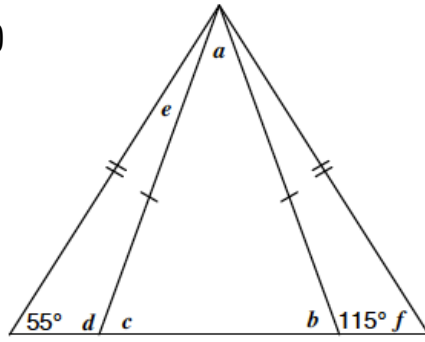
[8A]



g)



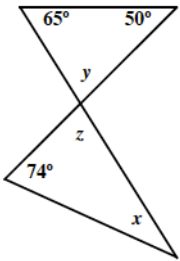
h)



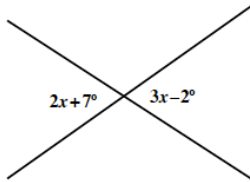
4. Find the value of x in each of the following diagrams.

[3T]

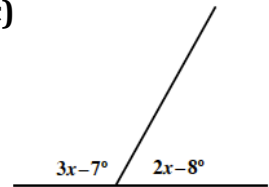
a)



b)



c)

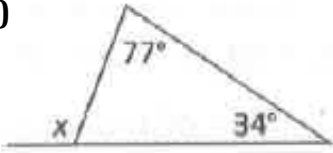


Section 3: Angle Relationships in Triangles

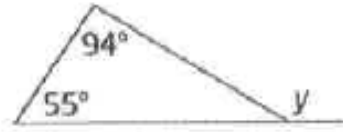
5. Find the measure of each exterior angle.

[3A]

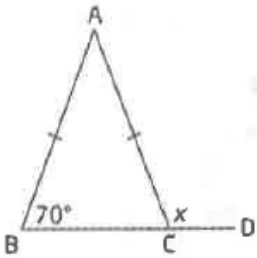
a)



b)



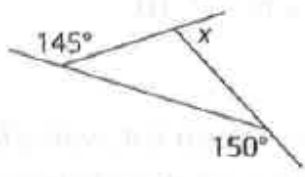
c)



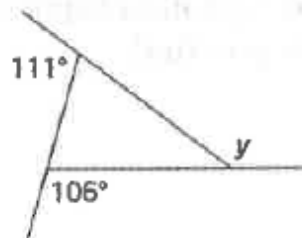
6. Find the measure of each unknown exterior angle.

[2A]

a)

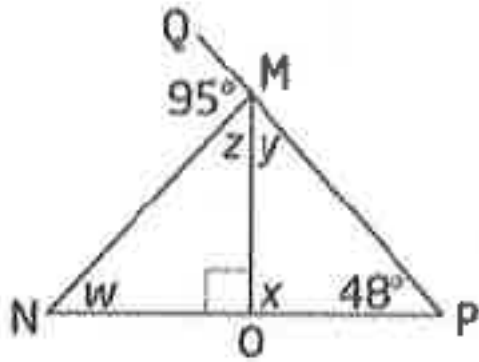


b)



7. Find the measure of each unknown angle

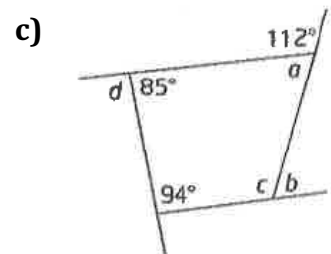
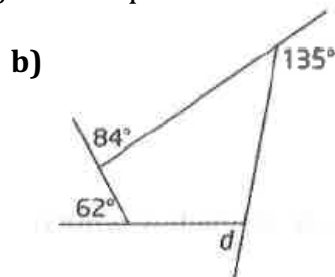
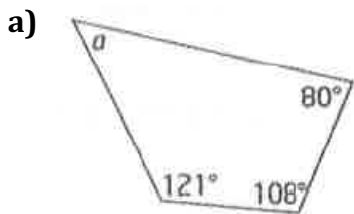
[2A]



Section 4: Angle Relationships in Quadrilaterals

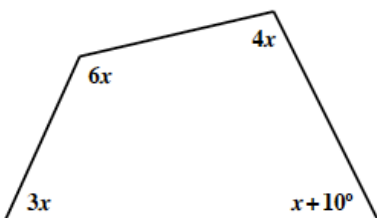
8. Find the missing angle measurement(s) in each quadrilateral.

[3A]



9. Solve for x .

[1T]



Section 5: Polygons

10. Find the sum of the interior angles of a polygon with 12 sides [1A]

11. Find the measure of each interior angle of a regular polygon with 12 sides [1A]

12. How many sides does a polygon have if the sum of its interior angles is 1260° [1A]

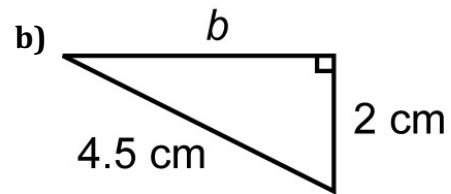
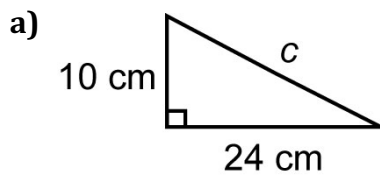
13. Complete the following table (round angle measures to the nearest tenth if necessary). [6A]

# of Sides	Interior Angle Sum	Measure of One Interior Angle (regular polygon)	Sum of Exterior Angles	Measure of One Exterior Angle (regular polygon)
n				
7				
21				
	1440°			
		135°		
				40°

Section 7: Pythagorean Theorem and Area/Perimeter of Composite Figures

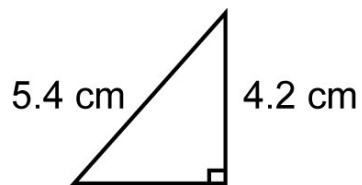
14. Find the length of the unknown side of each triangle

[2]



15. Find the area AND perimeter of the following triangle

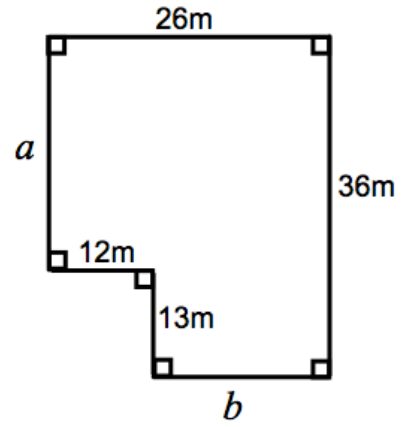
[2]



16. For the following composite figure:

[3A]

a) Find the length of the unknown sides



b) Determine the perimeter

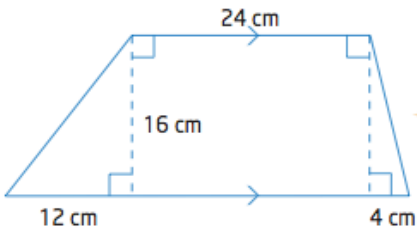
c) Determine the area

Perimeter= _____

Area= _____

17. Find the perimeter of the following object

[2]



Perimeter= _____